

ABSTRACT

A conventional high-luminance white light emitting diode (LED) device has the disadvantage of it being difficult to achieve high luminance and excellent and uniform quality since emitted light is weaker in the red wavelength region than at yellow wavelengths. The present invention provides a high-luminance white LED device with improved color rendering and spectrum distribution, and a method of manufacturing the same. The white LED device according to one embodiment of the present invention is characterized by dual molds. The white LED device includes: an LED chip mounting member for mounting an LED chip; at least one blue LED chip or ultraviolet LED chip mounted on the LED chip mounting member; a first mold having a transparent epoxy resin and a first phosphor and sealing the blue or ultraviolet LED chip, the first phosphor dispersed in the transparent epoxy resin to convert light emitted from the blue or ultraviolet LED chip into first light having a first wavelength; and a second mold having a transparent epoxy resin and a second phosphor and formed on the first mold, the second phosphor dispersed in the transparent epoxy resin to convert light emitted from the blue or ultraviolet LED chip into second light having a second wavelength, the second light being white light obtained by combination of the emitted light with the first light. The white LED device having the dual molds can be a lamp-type LED device, an injection-molded housing package-type LED device, or a transfer-molded chip-type LED device.